SEQUENCE LISTING

<110> MERKULOV, Gennady et al.

<120> ISOLATED HUMAN RAS-LIKE PROTEINS,
NUCLEIC ACID MOLECULES ENCODING THESE HUMAN RAS-LIKE
PROTEINS, AND USES THEREOF

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<141> 2001-03-29

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<213> Homo sapiens

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            20   25   30
Leu Ile Gly Asp Ser Gly Val Gly Lys Ser Cys Leu Leu Leu Arg Phe
        35   40   45
Ala Asp Asp Thr Tyr Thr Glu Ser Tyr Ile Ser Thr Ile Gly Val Asp
    50   55   60
Phe Lys Ile Arg Thr Ile Glu Leu Asp Gly Lys Thr Ile Lys Leu Gln
65   70   75   80
Ile Trp Asp Thr Ala Gly Gln Glu Arg Phe Arg Thr Ile Thr Ser Ser
                85   90   95
Tyr Tyr Arg Gly Ala His Gly Ile Ile Val Val Tyr Asp Val Thr Asp
            100   105   110
Gln Glu Ser Phe Asn Asn Val Lys Gln Trp Leu Gln Glu Ile Asp Arg
        115   120   125
Tyr Ala Ser Glu Asn Val Asn Lys Leu Leu Val Gly Asn Lys Cys Asp
    130   135   140
Leu Thr Thr Lys Lys Val Val Asp Tyr Thr Thr Ala Lys Glu Phe Ala
145   150   155   160
Asp Ser Leu Gly Ile Pro Phe Leu Glu Thr Ser Ala Lys Asn Ala Thr
                165   170   175
Asn Val Glu Gln Ser Phe Met Thr Met Ala Ala Glu Ile Lys Lys Arg
            180   185   190
Met Gly Pro Gly Ala Thr Ala Gly Gly Ala Glu Lys Ser Asn Val Lys
        195   200   205
Ile Gln Ser Thr Pro Val Lys Gln Ser Gly Gly Gly Cys Cys
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<212> PRT
<213> Homo sapiens

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            20   25   30
Leu Ile Gly Asp Ser Gly Val Gly Lys Ser Cys Leu Leu Leu Arg Phe
        35   40   45
Ala Asp Asp Thr Tyr Thr Glu Ser Tyr Ile Ser Thr Ile Gly Val Asp
    50   55   60
Phe Lys Ile Arg Thr Ile Glu Leu Asp Gly Lys Thr Ile Lys Leu Gln
65   70   75   80
Ile Glu Ser Phe Asn Asn Val Lys Gln Trp Leu Gln Glu Ile Asp Arg

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Tyr Ala Ser Glu Asn Val Asn Lys Leu Leu Val Gly Asn Lys Cys Asp
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Leu Thr Thr Lys Lys Val Val Asp Tyr Thr Thr Ala Lys Glu Phe Ala
        115                 120                 125
Asp Ser Leu Gly Ile Pro Phe Leu Glu Thr Ser Ala Lys Asn Ala Thr
    130                 135                 140
Asn Val Glu Gln Ser Phe Met Thr Met Ala Ala Glu Ile Lys Lys Arg
145                 150                 155                 160
Met Gly Pro Gly Ala Thr Ala Gly Gly Ala Glu Lys Ser Asn Val Lys
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Ile Gln Ser Thr Pro Val Lys Gln Ser Gly Gly Gly Cys Cys
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<213> Homo sapiens

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Thr Tyr Thr Glu
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Thr Ala Lys Glu
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Gly Ala Glu Lys Ser Asn
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 1   5

<210> 15
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 1   5   10

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<211> 601
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> (301)...(301)
<223> 't' may be either present or absent

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t 601

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<211> 601
<212> DNA
<213> Homo sapiens

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<210> 18
<211> 601
<212> DNA
<213> Homo sapiens

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a 601

<210> 19
<211> 601
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> (301)...(301)
<223> 'a' may be either present or absent

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c 601

<210> 20
<211> 601
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> (301)...(301)
<223> 't' may be either present or absent

<400> 20
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a 601

<210> 21
<211> 601
<212> DNA
<213> Homo sapiens

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<210> 22
<211> 601
<212> DNA
<213> Homo sapiens

<400> 22
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aggctgttca tgaacctcag attaagaata cttgatttag gagattgaaa acagaaaaga 180
gaatgttaac tatcattatc aatattaaaa tgtgaaaatc tgagagtgac aaagcttagc 240
tttaaatctg gtatcccaaa ctcatttgag ttttttttttt ttttttttttt tttttgagac 300
raggtgtcgc tttgtccccc aggctggagt gtagtggtgt gatcttggct cactgcaacc 360
tccacctccc aggttcaagt gattctcctg cctcagcctc tgaagttgct gggattacag 420
gctgcgccac cacgcccagc taatttttttg tatttatagt aaagacggag tttcacctta 480
ttggccaggc tggtctcaaa ctcctgatct tgtgatcctc ccgcctcggc ctcccaaagt 540
gctgggatta caggtgtgag ccactgttcc cggcctaatt tgagttttaa aatgtggagt 600
t 601

<210> 23
<211> 601
<212> DNA
<213> Homo sapiens

<400> 23
tgttcatgaa cctcagatta agaatacttg atttaggaga ttgaaaacag aaaagagaat 60
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aatctggtat cccaaactca tttgagtttt ttttttttttt tttttttttt tgagacaagg 180
tgtcgctttg tcccccaggc tggagtgtag tggtgtgatc ttggctcact gcaacctcca 240
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ygccaccacg cccagctaat tttttgtatt tatagtaaag acggagtttc accttattgg 360
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ggattacagg tgtgagccac tgttcccggc ctaatttgag ttttaaaatg tggagtttaa 480
gatgttagtc ttaaagtggg ttagatgaaa tttataaaaa tagtcaaata gctaaattta 540
taaaaggcca tttgaaacaa ttttgtgaaa tatataatgt ggataattat gtagtgcttt 600
a 601

<210> 24
<211> 601
<212> DNA
<213> Homo sapiens

<400> 24
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catttgagtt tttttttttt ttttttttttt tttgagacaa ggtgtcgctt tgtcccccag 180
gctggagtgt agtggtgtga tcttggctca ctgcaacctc cacctcccag gttcaagtga 240
ttctcctgcc tcagcctctg aagttgctgg gattacaggc tgcgccacca cgcccagcta 300

rttttttgta tttatagtaa agacggagtt tcaccttatt ggccaggctg gtctcaaact 360
cctgatcttg tgatcctccc gcctcggcct cccaaagtgc tgggattaca ggtgtgagcc 420
actgttcccg gcctaatttg agttttaaaa tgtggagttt aagatgttag tcttaaagtg 480
ggttagatga aatttataaa aatagtcaaa tagctaaatt tataaaaggc catttgaaac 540
aattttgtga aatatataat gtggataatt atgtagtgct ttatgtgtag attggtggtt 600
a 601

<210> 25
<211> 601
<212> DNA
<213> Homo sapiens

<400> 25
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aggccaggag tttgagacct gggcagcata tgaagaccct gtctctaaaa aactaaaaat 120
aaaaaatagc caggtgtggt tggtgtgctt gtggtcccag ctactcaaga ggctgaggca 180
agagggttgc ttgagcccag aagttggagg ctgccgtgaa ctgtgattgc accactgcac 240
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magggattta agaagggttt gtgaggtatg tattatttat aaatgggctt ttaactttac 360
ccttcacatc ttgggttgaa attaattgta tccattctca gtttttctgt cttgctatat 420
atttaaactt ggagacttag aggtcatgga tgtctttcta tgaaaagcaa atgaagcaga 480
gggctgcctt ctcttgctgt agagggcaca cttgctgcag agcatgttac tgttttatgc 540
attgctaggc tttgggagtt gtgacttgta tgatcatagt acttacaact attagttggc 600
a 601

<210> 26
<211> 601
<212> DNA
<213> Homo sapiens

<400> 26
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ctggaaacag tggataggat ttactagaat aatttacgag ggtgacaatt gtaaatcttc 180
ataggtttct ttttttttcct ttctcttttt ttttttttga gatggagtct cgctctgttg 240
cccaggctgg agtgcaatgg cgcagtctct cctcactgca acctccgcct cctgggtcca 300
rgtgattctc ctgccttagc cacccaagta gctgggatta caggcatctg ccaccatgct 360
gagctaattt ttgtattttt ttttttagta gagacggggt ttcaccatgt tggtcaggct 420
ggtcttgaac tcctgacctc aggtaatcca cccaccttgg cctcccaaag tgctgggatt 480
acaggtgtga gccaccgcgc ccagccaaat ttttattggt ttctaaacta gcgtaattta 540
gttttttttca cttaagtcaa aattatatta ttgtaggata aaaacttagt gatccaaatt 600
c 601

<210> 27
<211> 601
<212> DNA
<213> Homo sapiens

<400> 27
atccaaattc atgaggaatg aagaataaat acatttaaag tcttaccatt tgctaaatta 60
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ttctatcaac atttttactg tgtggtgttt tgtaaattat aaaaacgttt taaagcaaac 180
tcagaacaat gaattctcac gaatattcag tatatttaca gttgagaaat aaactacttc 240
tgtagtaggt aatttaaaat gtcccaatgc aagttaacgt gtcactgatc acgctattca 300
rgtgtgtgtc tttgataagg ggaggtgggg aagtttgtgg gtttgatttt atttgccttt 360
ctcatgtgac tgttgtcatg ttagtaaaca aatggtttgc gagagaacca gtagtctttt 420
gcaaagattg tcttatacag agcactcaat tcttcatatt atttataatg gctttaattt 480

aagccttaaa ttattagaaa ctcataaata attttttat ttgttttttt gagatggagt 540
ttcgccctta ttgtccaggc tgaagtacaa tgatgtgatc ttgactcact gcaacctccg 600
c 601

<210> 28
<211> 601
<212> DNA
<213> Homo sapiens

<400> 28
gcttaagcca tgcatgggct ttataggaga tgtagtcttc acagtgagtt gttatttgta 60
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tggaaagtct tgccttcttc ttaggtttgc agtaagttga aattgaaatg tctttacaat 240
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mgaataagtt aattcttcca gaatttatat atttaaagac tccaaatata catccccagt 360
ggtatcttgg actgttaaat agaaaaatat tgttgctctt aaaagaaatt cagtgaagtc 420
tggttataaa gtcagaatgt ctaatacttt tggtcagagt caaacagcag ttccaatata 480
ggcagcaagt taaaggggta gttggtggcc tgtgttgaaa gcgacttgat gaaaataaat 540
ctttaaatta aactttagta gaataaaaag aaaaagcaga gccaggtgac gcagtggatc 600
a 601

<210> 29
<211> 601
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> (301)...(301)
<223> 'a' may be either present or absent

<400> 29
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ttgggaggcc gagacgggcg gatcacaagg tcaagagatt gagaccatcc tggctaacac 120
ggtgaaaccc cgtctctact aaaaatacaa aaaatcagct gggtgtggtg ccacacgcct 180
gtagtcccag ctactcggga ggctgaggca ggagaatcgc ttgaacccag gaggcggagg 240
ttgcagtgag ctgagatggt gccactgcac tccagcctgg caacagagca agactgtctc 300
aaaaaaaaaa gaaaaaaaat aaaaaaacaa attagcatgt ttcccttcta gagatcattg 360
tttctcagag catggaccaa agactcctgg gggttaccaa gaccctctca ggtagcccat 420
gaggtcaaaa tatcctaata atactaagat gttagtattt gtaaggaaat atttacttgg 480
taataatact aatataaaag atgtttgcgt ttttcagtga tgacattggc tctggtacaa 540
aagcatgtgg gtaaaattgc tgctggcttg gtacacatca aggcagcgct aagctccaaa 600
t 601

<210> 30
<211> 601
<212> DNA
<213> Homo sapiens

<400> 30
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ctttaaaaat atttgtgaag aaatgggaag ttcacataaa acaatgtttt ttttttgttt 300
kttttttttt ttttttttga gacagattct ggctgtgttg ccaaggctag agtgcagtgg 360

[redacted]

cgtctggctc ccaggctcaa gctgttctcc cacttcagcc tcccaagtgg ctgggacctc 420
ccaagtggat gcgccatcat gcctggctga tttttgtatt tttttgtagt gacaaggtct 480
cactgtgttg cacaggctgg tctcaaactt ctgagctcaa gcgatgcatg tgcctcagcc 540
tcccaaagtg ctggagaaag cacttttac tgcatactgg ctagtgtgtt ggttattttg 600
g 601

<210> 31
<211> 601
<212> DNA
<213> Homo sapiens

<400> 31
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gtgcagtcgt gcaatctcgg ctcactgcag cctccacctc atgggttcaa gcgattctcc 120
atcttggtct cctgactagc taggtttaca ggcgtgtgcc atcacaccca ctaatttttt 180
gtatttttag tagagacagg gtttcaccat gttggccagg ctggtcttga actcctgatc 240
taaagtgagc ctcccacctt ggcctcccaa agtgctggga ttacatatgt gagccactgc 300
bcctggcctc tatatacttc tatagtacct gatacttatt aggcactcaa ttacaacata 360
actttttttt ttttttttt ttttgagaca gagacatgcc ttgtcgcctg ggctggagtg 420
cagtggcaca gtctcggctc actgcaacct tcacctcccg ggttcaagtg attctccttc 480
ctcagcctcc cgggtagctg ggattacagg cgcccgccac cacgtccagc taatttttg 540
tatttttaat agagatgagg tttcaccatc ttggccaggc tgatctcaaa ctcctgacct 600
t 601

<210> 32
<211> 601
<212> DNA
<213> Homo sapiens

<400> 32
atgtgtgatc attggtgttt ataagatttg ggtgtgtatt cgtgtgtgaa acattcatat 60
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gtggcgcgat ttgagctcac tgcaacctcc gcctcctggg ttcaagtgat tctcctgcct 300
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cgctgcagcc tccgcctccc aggttcaagc agttctcttg cctcagcctc ctgagtagct 480
gggattacag gcgtgcgcca ccacaccctg ctaatttttt gtatttttag tagagacaga 540
gtttcaccat gttggttagg ctggtctcga actcctgacc tcgtgatctg cctgactcgg 600
c 601

<210> 33
<211> 601
<212> DNA
<213> Homo sapiens

<400> 33
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gggatcttat aggacactgt ctttcatctt tgtctgtctt tcatctttaa taggaatttc 120
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gatacagtat tgctctgtct cccaggctgg agtgcagtgg cgcgatttga gctcactgca 240
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yatgtgtgta ccaccatgcc cggacaattt ttttttttt gagatggagc cttgctttgt 360
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tcaagcagtt ctcttgcctc agcctcctga gtagctggga ttacaggcgt gcgccaccac 480
accctgctaa ttttttgtat ttttagtaga gacagagttt caccatgttg gttaggctgg 540

tctcgaactc ctgacctcgt gatctgcctg actcggcttc ccaaagtgct gggattacag 600
g 601

<210> 34
<211> 601
<212> DNA
<213> Homo sapiens

<400> 34
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gagactgagg tgggaggaat gtttgagccc aggacttcaa ggctgcagtg aggcaagatt 120
gcaccattgc accccagctt tggggacaga gtgagagacc ctgtctcaaa aacaaaataa 180
ggctgggcgc agtggctgtc cgggcgtcgt ggttcacgct tatagtccta gcactttggg 240
aggccaaggt gggcagattg cctgagctca ggaggtctaa gaccagcctg agcaacatgg 300
ygaaacctca tctttgcaaa acatacagaa aaaaacaaaa aaaaccacaa aacctctagt 360
tgccagttat ttttttatt tattcctagt gattcttctt tttttctttt ttctgagaca 420
aaaatttcac tttgtctccc tcgctagagt gcagcggtca gctcactaca tgattctttt 480
agagacatgt taattcttta tattgagctg aagcctgttt cttttacttc tgtctcttct 540
tattcctccg ccttgtagag ctgcctgaat cagattaatt cctcttttat tggcaagcct 600
g 601

<210> 35
<211> 601
<212> DNA
<213> Homo sapiens

<400> 35
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actatttccc ctccctccta cacttttccc caactttatt ttaatggaat tgtttggatt 120
tcttgattgt tttgtaatag tgggacacag caggccagga aagatttcga acaatcacct 180
ccagttatta cagaggagcc catggcatca tagttgtgta tgatgtgaca gatcaggtaa 240
gttccaagag gagattgtgt tacagtgacc aagtaggaag ccattatttg attaatgtca 300
sattcattta ctacttcata tataagccat cagtattaat tttatggcag aaaactttgt 360
ccactctcaa atataaatgt gaatcactta aaagacattt gttttcctgt aataaataaa 420
agattagtaa ttagttttac gtttgctttc aagggattct ggttgtattt attgtcaact 480
aaataacttt gatcaaatag ccaagactct aacatatagg caagagtttg tagggaatcg 540
tgagttgctt ggcttatact gtgttcttgg tgttaagtat taacaggaat atggcctggt 600
a 601

<210> 36
<211> 601
<212> DNA
<213> Homo sapiens

<400> 36
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aggccaggaa agatttcgaa caatcacctc cagttattac agaggagccc atggcatcat 180
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acatataggc aagagtttgt agggaatcgt gagttgcttg gcttatactg tgttcttggt 540
gttaagtatt aacaggaata tggcctggta attagaactt gtccatcaga attgccaaaa 600
g 601

<210> 37
<211> 601
<212> DNA
<213> Homo sapiens

<400> 37
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caacagcgaa ggtatgttta aagtttaatt ttcatactga atttgaaggt gttgaattat 180
gtatgggttc tgcagtaaca gtaaggccac agccttttaa aaatatgtgc actagaatac 240
tgtgacagtg acaatttgtg tagcatctgt ttggatccaa tgaacttagt tcctcacgct 300
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tgctaagaat gcaacgaatg tagaacagtc tttcatgacg atggcagctg agattaaaaa 480
gcgaatgggt cccggagcaa cagctggtgg tgctgagaag tccaatgtta aaattcagag 540
cactccagtc aagcagtcag gtggaggttg ctgctaaaat ttgcctccat ccttttctca 600
c 601

<210> 38
<211> 601
<212> DNA
<213> Homo sapiens

<400> 38
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agctgcacta caacagattc ttaccgtctc cacaaaggtc agagattgta aatggtcaat 120
actgactttt tttttattcc cttgactcaa gacagctaac ttcattttca gaactgtttt 180
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gctagttctt ccttgtagag ttataaatgg aaagattaca ctatctgatt aatagtttct 480
tcatactctg catataattt gtggctgcag aatattgtaa tttgttgcac actatgtaac 540
aaaacaactg aagatatgtt taataaatat tgtacttatt ggaagtaata tcaaactgta 600
t 601

<210> 39
<211> 601
<212> DNA
<213> Homo sapiens

<400> 39
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tccctaaaaa ttaaaacatg aatactgggt ggtaatgata attgaggcaa atgtatttat 240
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kttttgtttg gtttttaatt gtgaggaata aaaaatcttc tgcccacact ggcattttaa 360
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caggggcttg ggatatggct gctggcaaca cattttgttg tgggctcctt aatttaatga 480
taaaatttaa gctaaacaca agccaaaaat gaataggttt ttttaatttt tatttttcac 540
taaacaggca attgaaatac atggtacaaa aataagtggt aagataattg taaaatgaaa 600
t 601

<210> 40
<211> 601
<212> DNA

[redacted]

<213> Homo sapiens

<400> 40
ggagggttta agcattaaga taggaagcag gaaatttgat tgctctaaat ttagaaatta 60
tatccctaaa aattaaaaca tgaatactgg gtggtaatga taattgaggc aaatgtattt 120
attttggtga cattttgcat atatgaagat tttctgaaat aggaccttca agatcctagg 180
gggttttgtt tggtttttaa ttgtgaggaa taaaaaatct tctgcccaca ctggcatttt 240
aaggtgactg aggtcaaacg ttgtttcctt aggttgaaat agcagccaaa acattcttca 300
ygcaggggct tgggatatgg ctgctggcaa cacattttgt tgtgggctcc ttaatttaat 360
gataaaattt aagctaaaca caagccaaaa atgaataggt ttttttaatt tttatttttc 420
actaaacagg caattgaaat acatggtaca aaaataagtg gtaagataat tgtaaaatga 480
aatggacaga atattcaatt ttccatctat gaaaatttca caataaaaat catagtttac 540
tttgtattat aggcgtgctt ggtggatcta ttcatcctca cataaggcaa ctgacaaatt 600
c 601

<210> 41
<211> 7
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(7)
<223> Xaa = Any Amino Acid

<400> 41
Gly Xaa Xaa Xaa Xaa Gly Lys
1 5

<210> 42
<211> 5
<212> PRT
<213> Homo sapiens

<400> 42
Asp Thr Ala Gly Gln
1 5

<210> 43
<211> 4
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(4)
<223> Xaa = Any Amino Acid

<400> 43
Asn Lys Xaa Asp
1

<210> 44
<211> 5

<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(5)
<223> Xaa = Any Amino Acid

<400> 44
Glu Xaa Ser Ala Xaa
 1   5

<210> 45
<211> 4
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(4)
<223> Xaa = Any Amino Acid

<400> 45
Cys Ala Ala Xaa
 1